IMPACT OF POLICY AND REGULATORY FRAMEWORKS ON PROJECT FINANCING FOR WASTE MANAGEMENT

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Dialogue. Insight. Solutions.

CCAP
CENTER FOR CLEAN AIR POLICY

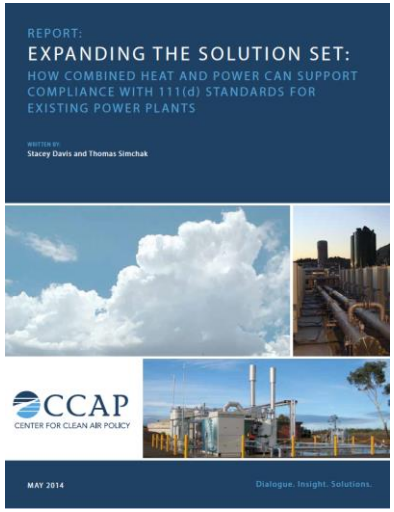
CENTER FOR CLEAN AIR POLICY

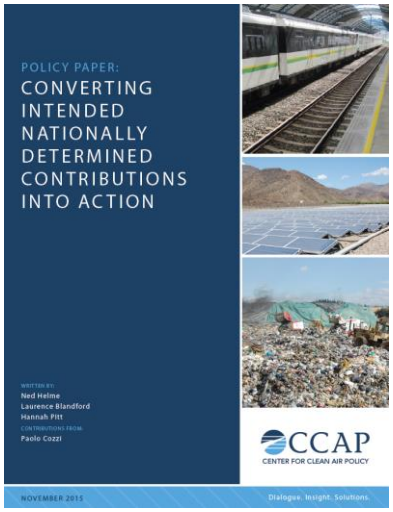
A Think Tank that Does

- Acid Rain Legislation
- EU Market Design
- Early design and promotion of NAMA concept
- In country work on energy, waste and transportation

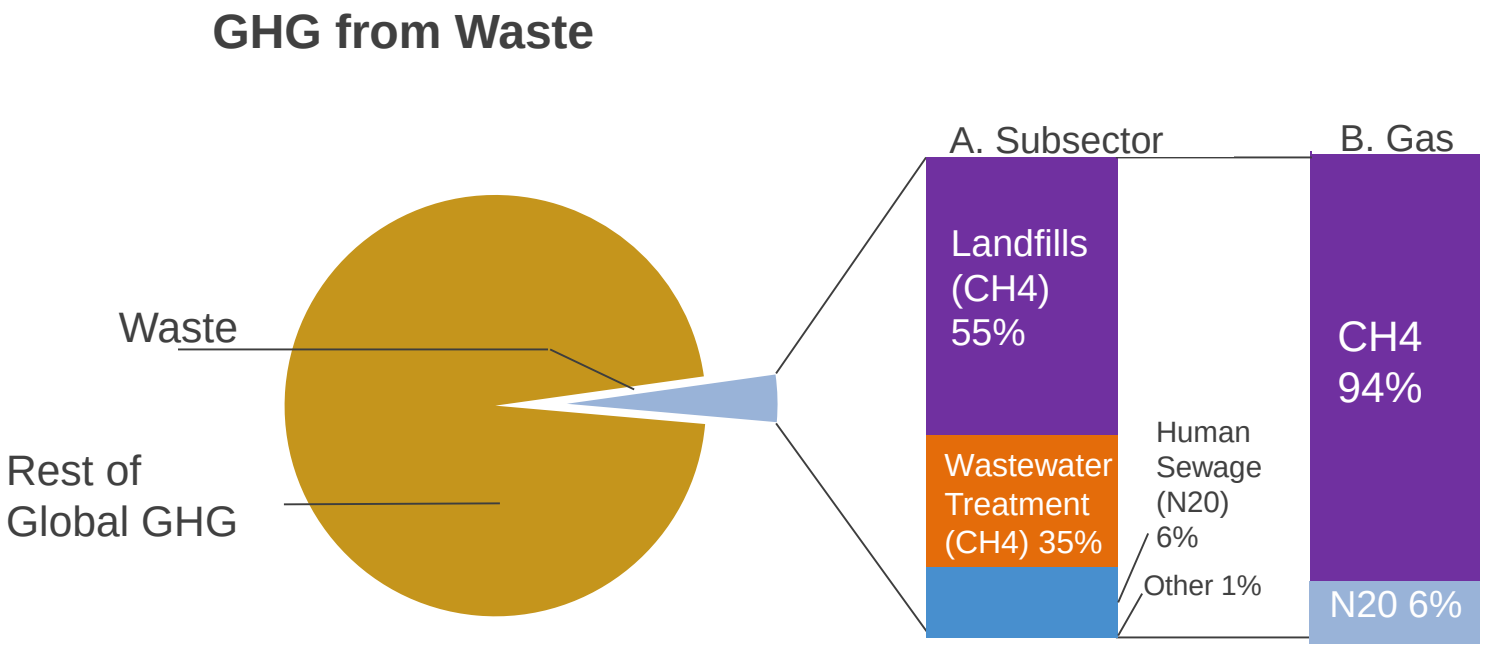
Analyze. Engage. Innovate.

- Technical, Policy, and Economic Analyses
- Publications and Outreach
- Multi-Stakeholder Partnerships and Dialogues
- Innovative Solutions
- Execution





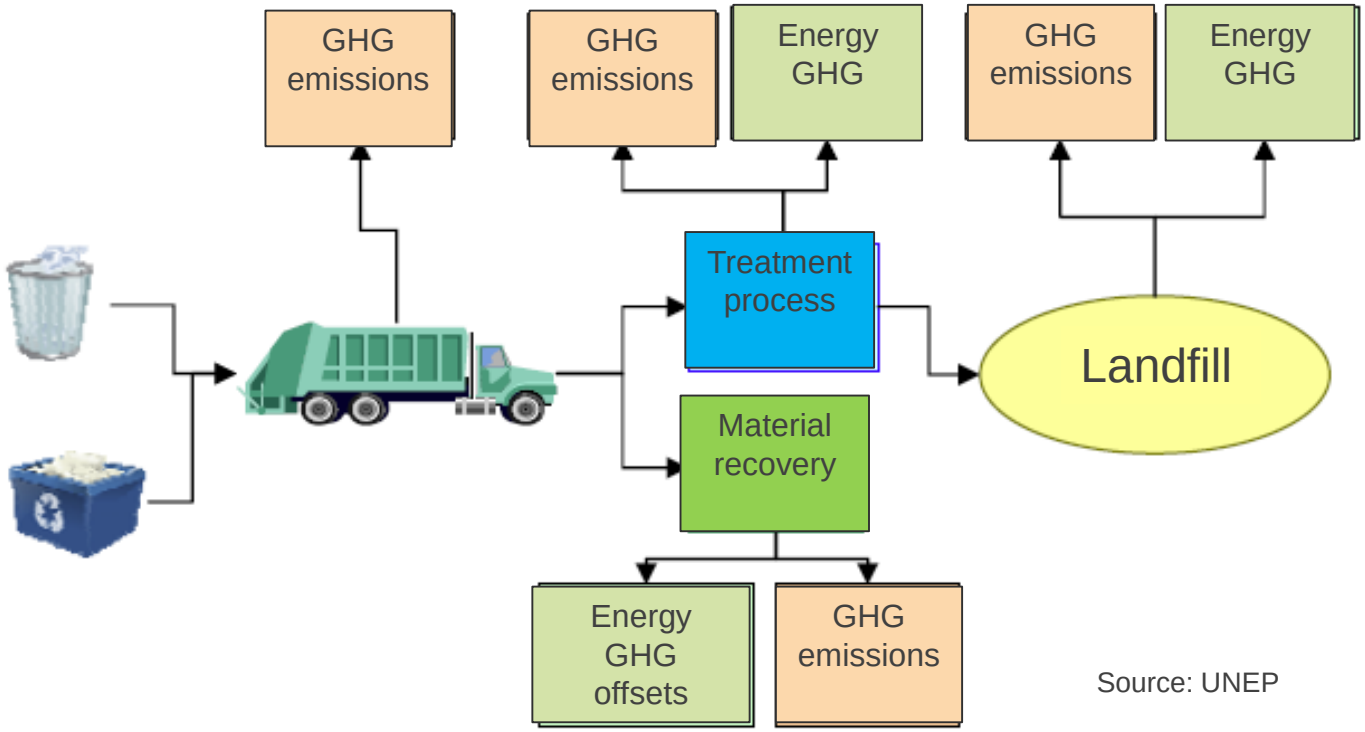
CONTRIBUTION TO GLOBAL EMISSIONS



Source: World Resources Institute

Landfills account for 11% of estimated global methane emissions.
The greatest reduction potential is in the Landfill Sector.

CONTRIBUTION TO GLOBAL EMISSIONS



Source: UNEP

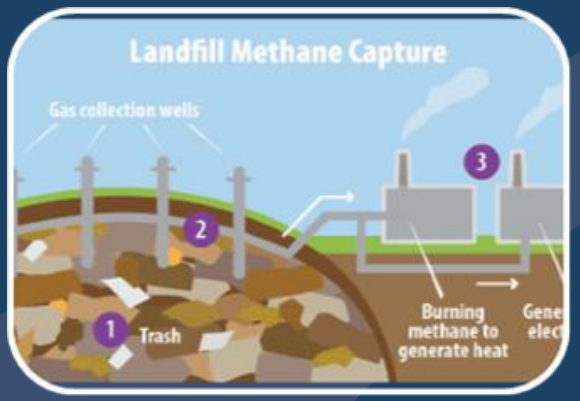
The waste sector contributes approximately 3-5% of total global GHG Emissions. (UNEP)

MITIGATION PROJECTS FOR THE WASTE SECTOR

- Collection and transport
- Transfer stations
- Landfill gas recovery
- Recycling
- Composting
- Anaerobic digestion

These projects require financing !!!

POLICY AND REGULATORY FRAMEWORKS



POLICY OPTIONS

- Waste management must be planned, developed and operated within the framework of local resource availability, economics and environmental concerns.

Governments have a range of policy options to encourage more sustainable waste management practices that will reduce GHG emissions.

Examples of **policy options**:

- Price mechanisms (e.g. landfill tax, mandates)
- Bans (e.g. plastic bags)
- Public awareness programs
- Incentives: grants, loans, subsidies
- Extended Producer Responsibility

ANALYZE REGULATORY CONTEXT AND IDENTIFY POLICY OPTIONS

Policy Examples:

- **Minimization of waste** or **waste generation**.
- **Minimization of health** and **environmental risks**.
- **Strengthening citizen participation**, environmental education and increased awareness regarding waste and / or waste management.
- Promoting the **development and use of waste**, considering them an **economic good**.
- Promoting the **establishment of minimum standards for the management of waste** and / or waste in the generation.
- Promoting **economic sustainability** through the establishment of a system of fees that covers all of the net expenses of the management of non-hazardous domestic solid waste.

BARRIER ANALYSIS

There are barriers that prevent municipal governments from adopting more sustainable waste management practices.

Technical

- e.g. Lack of awareness of available technologies

Policy and Regulation

- e.g. Alternative treatment options not eligible for waste tariff

Economic

- e.g. High upfront costs

POLICY AND REGULATORY ANALYSIS

- A regulatory analysis is done by evaluating **current policy** (country's legislation) regarding waste management regulations.

- In this analysis the objective is **to identify possible policy barriers and how to overcome them**.

Example policy barriers:

- New/ alternative technologies are not eligible for competitive tariffs.
- Alternatives to landfills are not supported in current policy framework.
- Prohibition of using non- hazardous waste as fuel.
- Lack of implementation/enforcement capacity in government.
- Volatile market for recyclables.

POLICY AND REGULATORY BARRIER ANALYSIS

Description of Barrier

- The **regulatory environment** can either facilitate or hinder progress towards implementing waste management activities.

- A weak regulatory environment based on an ineffective legal framework and poor enforcement will act as a barrier to the development of waste management strategies.

Regulatory Barrier	Solutions to Barrier
Lack of appropriate environmental regulation for the promotion of the waste hierarchy.	• Address ISWM principles and foster the implementation of projects that incorporate best management practices.
Lack of capacity in government to regulate and monitor implementation of alternative technologies and processes.	• Creation of a new authority that will regulate and monitor alternative technologies and processes.
Lack of regulatory framework for selling of by-products.	• Modification to the waste law that will allow municipalities to sell by-products direct to industry.
Lack of institutional technical capacity particularly at municipal level.	• Development of a Technical Assistance Program to build capacities at the municipal level (both district and provincial level).

TYPOLOGIES OF PUBLIC POLICIES

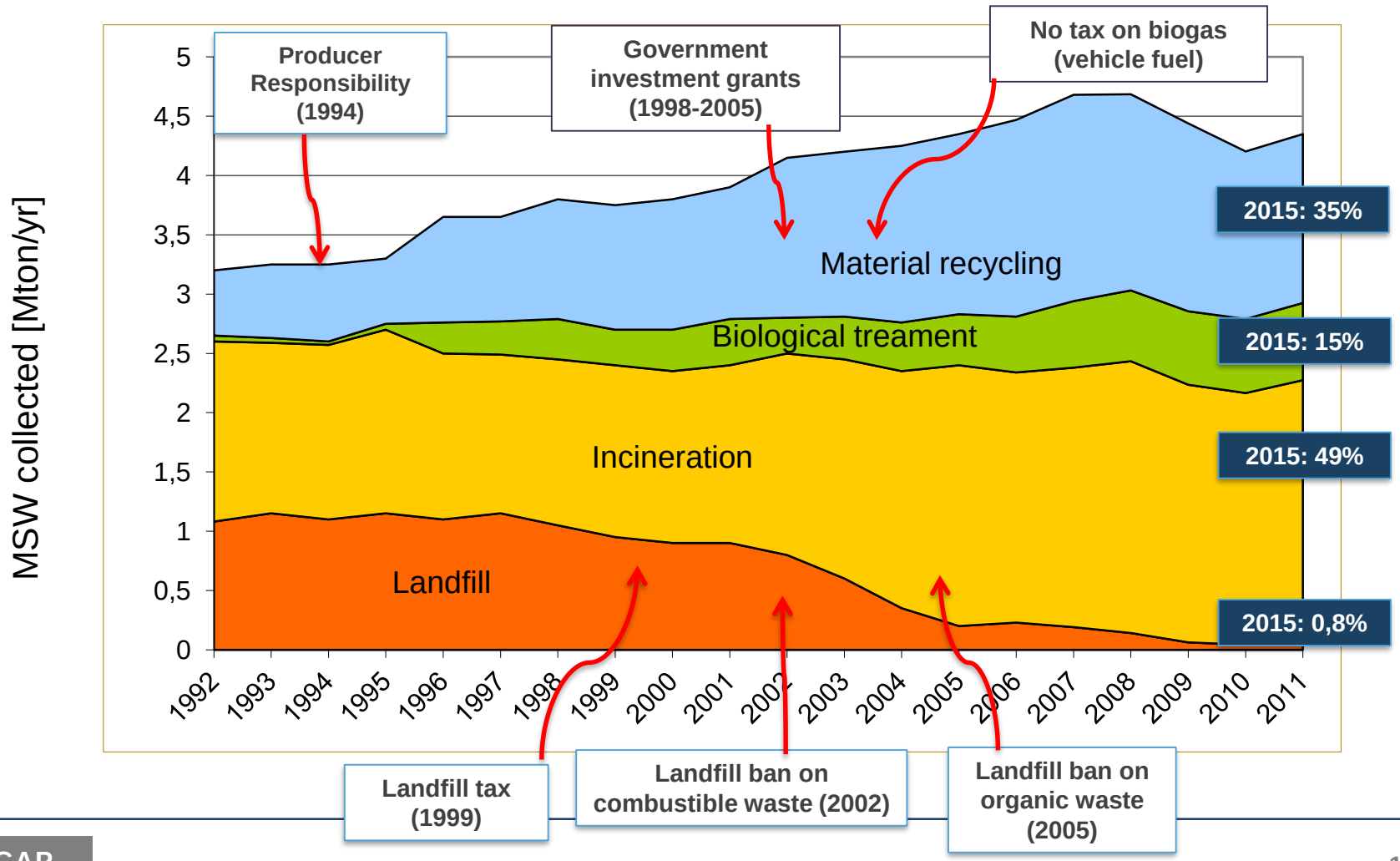
- Regulatory
  - E.g.,Landfill gas capture
- Distributive
  - E.g., Financial incentives
- Redistributive
  - E.g., Differenciated tipping fee for lower income families
- Constituent policies
  - E.g.,Waste management coordinated by regional authorities

QUALITY CRITERIA FOR SOUND PUBLIC POLICY

- Execution capacity
  - For example: Availability of human and financial resources
- Stability
  - For example: Certainty with long-term regulatory frameworks
- Adaptability
  - For example: Adaptability to different territorial contexts
- Coherence and coordination
  - For example: Compatibility with public health policies (methane from the landfill is a precursor of tropospheric ozone)
- Transparency
  - For example: Citizen participation in the decision making process for locating a sanitary landfill

POLICY OPTIONS – SWEDEN CASE STUDY

Policy Instruments based on Sweden Waste Management



POLICY OPTIONS – PERU CASE STUDY

Potential Policy Changes:
Peru Waste Nationally Appropriate Mitigation Action (NAMA)

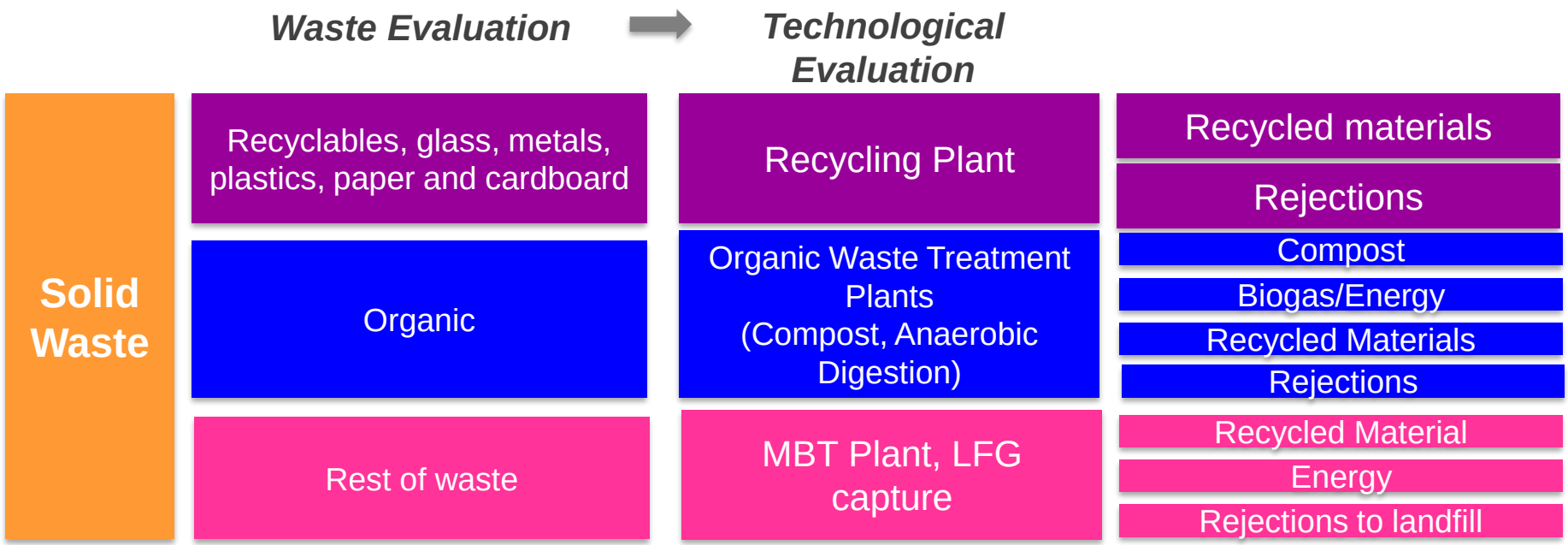
Develop regulations to implement proposed modification of the waste law including:

- Guidelines for municipalities to set specific quantitative goals for each element of waste policy (recycling, composting, separation of organics, capture of landfill gas).
- Guidelines for municipalities to demonstrate that their waste plan goals can be met with the budgets, fees, and outside support that they will receive.
- Requirement of periodic monitoring and reporting of GHG emissions associated with waste facilities and activities by municipalities and private sector operators.
- Creation of certification program for high quality compost.
- Requirement of landfill gas collection for all new landfills.
- Expansion ofcurrent formalization program for waste pickers.

FINANCING

TECHNICAL ANALYSIS

- Technical assessments are done by pre feasibility studies. These studies can have a high cost but are vital to identify which alternative technology is the best to pursue.



ECONOMIC / FINANCIAL ANALYSIS

- **Cash flow statement**

- **Return on Investment (ROI)**:
  - Payback period
  - Internal Rate of Return (IRR)
  - Net Present Value (NPV)

- **Sensitivity Analysis**

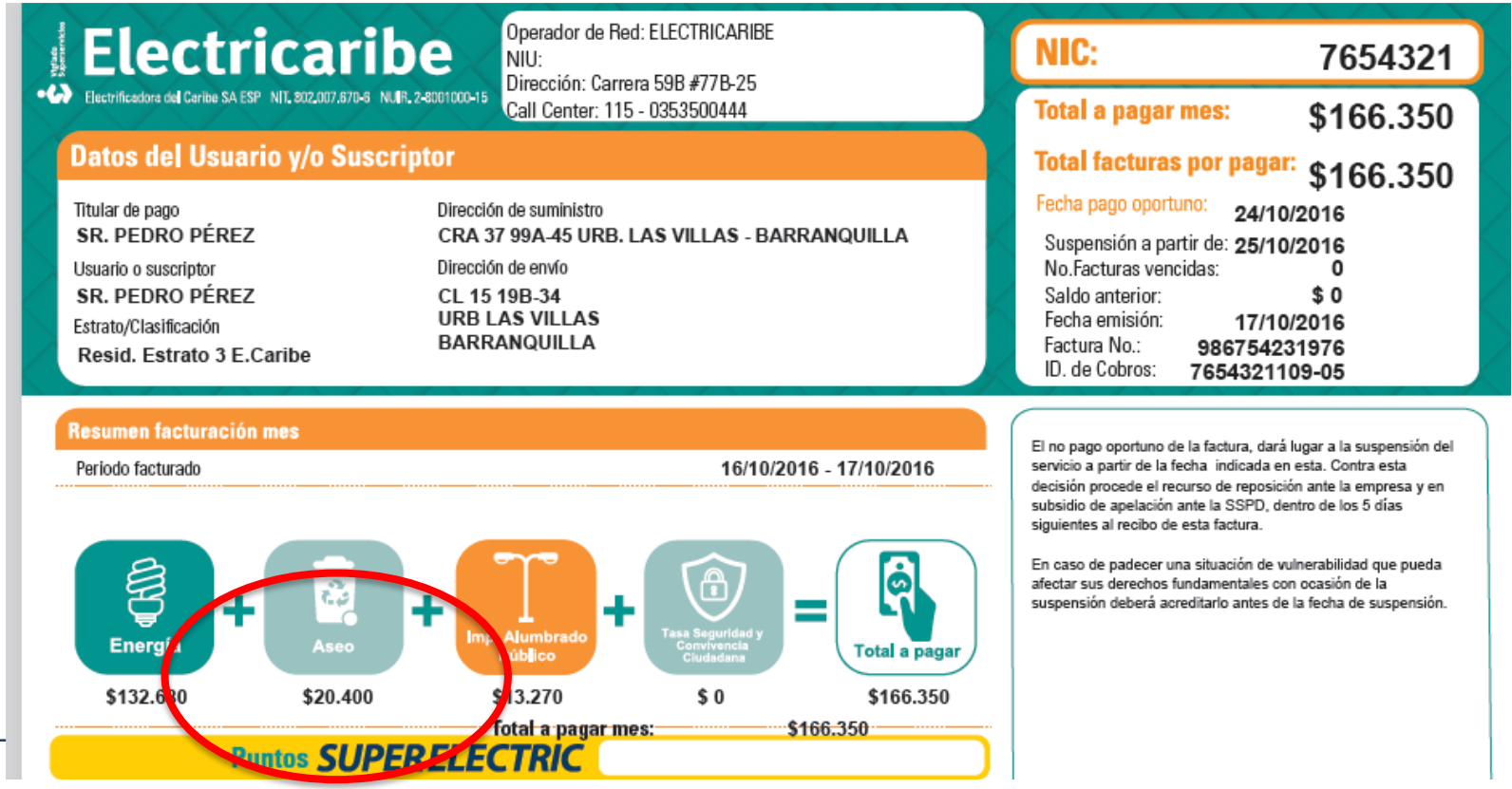
SERVICE FEE

The service fee is comprehensive:

- Fee = TLU + TBL + TRT + TDF + TTL
- UCF = Urban cleaning fee
- SCF= Street sweeping and cleaning fee
- CTF = Collection and transport fee
- FDF = Final disposal fee
- LTF= Leachate treatment fee

MECHANISMS TO CHARGE THE SERVICE

- Joint invoicing with other taxes (property tax)
- Direct Billing by the Municipality
- Direct Billing by the Operator
- Joint Billing through a third party (Electricity, Water)



Electricaribe

Electrificadora del Caribe SA ESP NIT. 802.007.670-6 NUIR. 2-8001000-15

Operador de Red: ELECTRICARIBE
NIU:
Dirección: Carrera 59B #77B-25
Call Center: 115 - 0353500444

NIC: 7654321

Total a pagar mes: $166.350

Total facturas por pagar: $166.350

Fecha pago oportuno: 24/10/2016
Suspensión a partir de: 25/10/2016
No.Facturas vencidas: 0
Saldo anterior: $ 0
Fecha emisión: 17/10/2016
Factura No.: 986754231976
ID. de Cobros: 7654321109-05

Datos del Usuario y/o Suscriptor

Titular de pago
SR. PEDRO PÉREZ
Usuario o suscriptor
SR. PEDRO PÉREZ
Estrato/Clasificación
Resid. Estrato 3 E.Caribe

Dirección de suministro
CRA 37 99A-45 URB. LAS VILLAS - BARRANQUILLA
Dirección de envío
CL 15 19B-34
URB LAS VILLAS
BARRANQUILLA

Resumen facturación mes

Período facturado 16/10/2016 - 17/10/2016

Energía	Aseo	Alumbrado Público	Tasa Seguridad y Convivencia Ciudadana	Total a pagar
$132.630	$20.400	$13.270	$ 0	$166.350

Total a pagar mes: $166.350

Puntos SUPERELECTRIC

El no pago oportuno de la factura, dará lugar a la suspensión del servicio a partir de la fecha indicada en esta. Contra esta decisión procede el recurso de reposición ante la empresa y en subsidio de apelación ante la SSPD, dentro de los 5 días siguientes al recibo de esta factura.

En caso de padecer una situación de vulnerabilidad que pueda afectar sus derechos fundamentales con ocasión de la suspensión deberá acreditarlo antes de la fecha de suspensión.

OTHER REVENUE STREAMS

- Other revenue streams to be considered:
  - Compost sales
  - Electricity sales
  - Fuel sales
  - Heat sales
  - Recyclable sales
  - Certified Emission Reduction (CER) sales

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EXAMPLES OF FINANCIAL MECHANISMS

Financial Barriers	Financial Instrument
Perceived low credit quality of borrowers or risk entering a new sector.	Partial Credit Risk Guarantee
High Transaction Costs of Smaller Scale Projects.	Creation of a Special Purpose Entity
Lack of Familiarity with Technology	Performance Guarantee
High interest rate environments and/ or lack of project revenues to cover market- terms of financing	Extension of lending maturities Soft Loans Revolving Fund Co- Financing
Lack of capacity in local banks	Special Funds
Project sponsor lacks necessary equity investment to mobilize commercial bank debt financing	Creation of Equity Fund capitalized with donor contributions

PRINCIPLES OF FINANCIAL MECHANISMS

- There are several overarching principles to consider when designing financial mechanisms:

- Effective financial mechanisms can catalyze additional investments from the private sector and lead to significant transformation in the target sector in reducing GHG emissions and achieving sustainable development goals.

FINANCIAL SOURCES

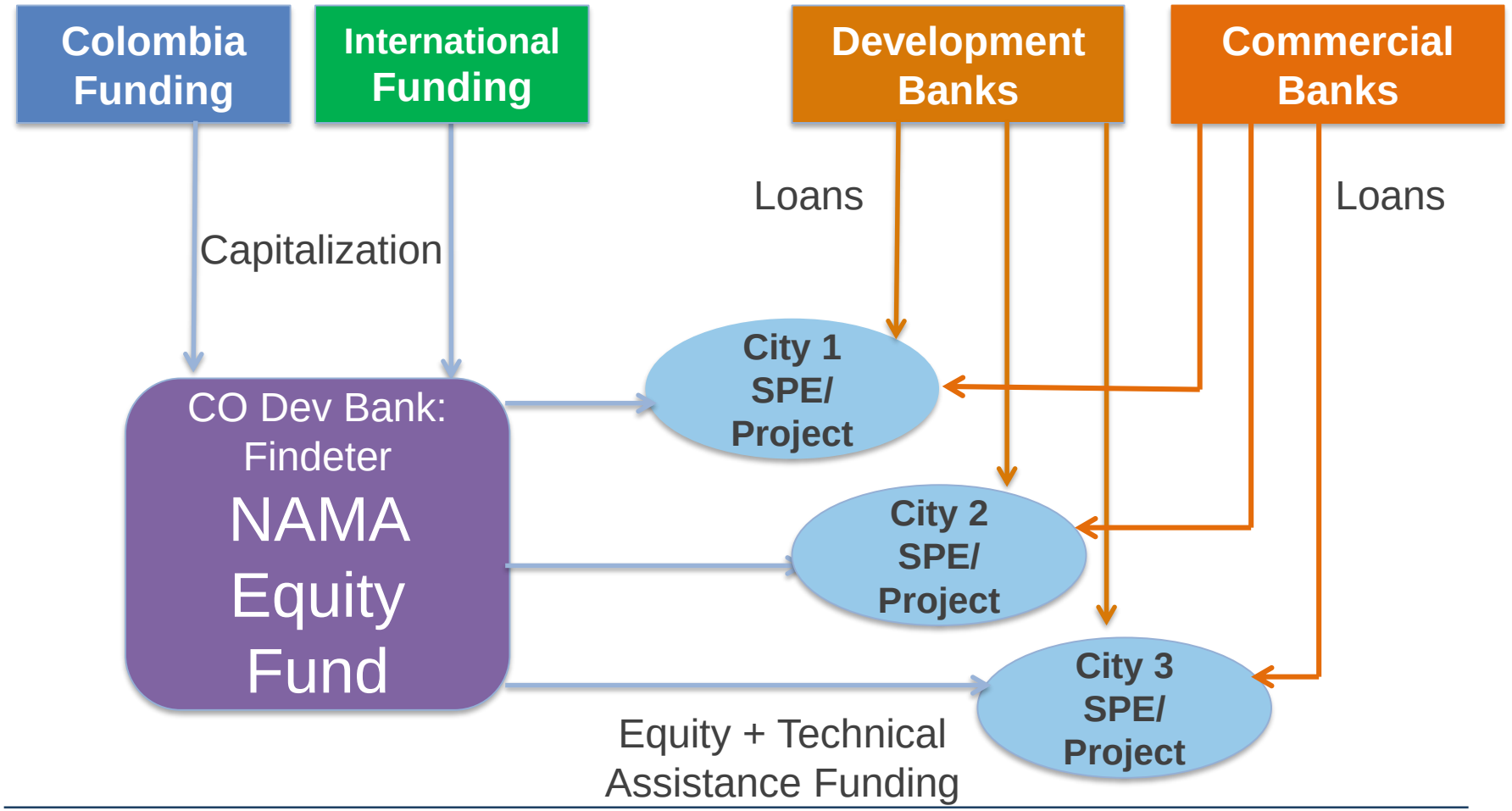
- Public sources
  - National government
  - Local government
- Private sources
  - Development bank
    - World Bank, The European Bank for Reconstruction and Development (EBRD), Inter-American Development Bank (IADB)
  - Commercial bank
- Public Private Partnership (PPP)

INFRASTRUCTURE INVESTMENTS IN DEVELOPING COUNTRIES

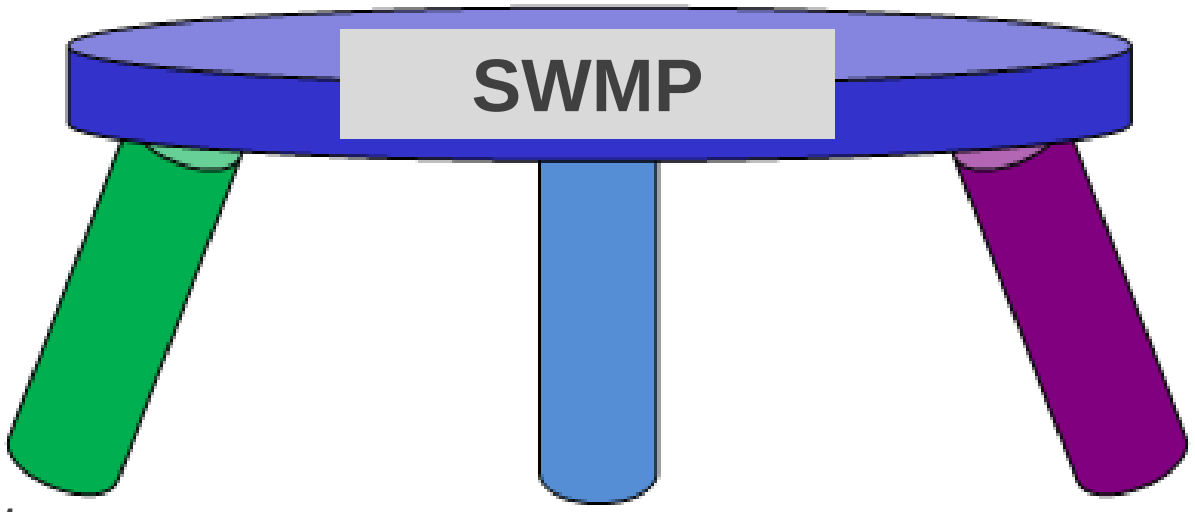
- Commercial bank financing
- Capital markets financing
- Equity funds
- Development finance institutions
  - La Laja Sanitary Landfill (USD 18 MM, Puerto Varas, Chile) is financed by the State of Chile through a loan signed with the German Development Bank KfW.
- Bilateral agencies
  - U.S. Agency for International Development (USAID);
  - The Swedish International Development Cooperation Agency
- Multilateral Development Banks

CASE STUDY FINANCIAL MECHANISM

Example Waste Projects Finance



SUSTAINABLE WASTE MANAGEMENT PROGRAMS



Policy/Regulatory Change: Improving policy and institutional frameworks

Financial Mechanism: Addressing financial risks and returns

Project Pipeline: Identifying potential projects and demonstrating feasibility

"The three legs of the stool define elements that make climate-friendly investments bankable." (CCAP)

THANK YOU

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For more information,
please visit us at
www.ccap.org